

## CLAIMS

- 1 Method for synchronising a robot (1) that includes a control system (2), a first robot  
part (3) and a second robot part (5) movably attached to the first robot part (3),  
5 whereby the position of a target (4) arranged on the first robot part (3) is determined by  
the passage of a sensor (6) arranged on the second robot part (5) and is compared with  
a calibration position in the control system characterised in that the target (4) is  
caused to include several distinct detectable changes (4a) and (4b), that the distinct  
detectable changes are sensed by the sensor (6), that the position (4c) of the target is  
10 calculated and that the calculated value is introduced into the control system.
- 2 Method according to claim 1 characterised in that the distinct detectable  
changes comprise step-like structural changes.
- 15 3 Method according to claim 1 characterised in that the position of the target (4)  
is read with a sensor (6) in the form of a non-contact sensor.
- 4 Method according to claim 1 characterised in that the position of the target (4)  
is read with a sensor in the form of a contact sensor.
- 20 5 Method according to any of the previous claims characterised in that the target  
(4) is designed as a groove with essentially vertical walls (4a) and (4b).
- 6 Method according to claim 1 characterised in that the target (4) is designed as  
25 an elevation with essentially vertical sides (4a') and (4b').
- 7 Device for synchronising a robot (1) that includes a control system (2), a first robot part  
(3) and a second robot part (5) movably attached to the first robot part (3) where the  
device includes a target (4) arranged on the first robot part (3) and a sensor (6) arranged  
30 on the second robot part (5) characterised in that the target (4) includes several  
distinct by the sensor (6) detectable changes.

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- SUB A*
- 8 Device according to claim 7 characterised in that the distinct detectable changes comprise instantaneous level differences in the form of shoulder parts (7).
- 5 9 Device according to claim 7 characterised in that the target (4) is designed as a groove with essentially vertical walls (4a) and (4b).
- 10 Device according to claim 7 characterised in that the target (4) is designed as an elevation with essentially vertical sides (4a) and (4b).
- 10 11 Use of a method according to any of claims 1-6 or device according to any of claims 7-10 for an industrial robot.
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